UPA-1C

UltraSeries™ Loudspeaker

Features

- Efficient high power
- Ultra-low distortion
- Compact and versatile
- High clarity and coherence
- Arrayable
- Rugged
- Long-term reliability

Applications

- Music playback in discos
- Sound reinforcement
- Live music clubs
- Side fill in concert reinforcement
- Theater PA systems
- High-power announcing
- Paging indoors/outdoors

Designed for a wide variety of sound reinforcement applications, the compact, arrayable UPA-1C allows for controlled coverage of wide areas in theater, club and concert sound reinforcement. The powerful loudspeaker delivers high sound pressure levels with extremely low distortion, for maximum intelligibility and fidelity.

The biamplified loudspeaker consists of aproprietary 12-inch low-frequency cone driver in a vented enclosure with an 80-degree high-frequency horn and driver.

The rugged, multiple-ply hardwood cabinet enclosure is fitted with handles and, optionally, aircraft-style rigging pan fittings or threaded nut plates.

The UPA-1C requires a high-quality professional stereo power amplifier capable of delivering 250 watts/channel continuously into 8 ohms, with a signal voltage gain of 20dB (minimum) to 30 dB (maximum).

Meyer Sound

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UPA-1C Specifications

Acoustical – UPA-1C/M-1A System		
Frequency Response[1]	80 to 18,000 Hz ±4 dB	
	-6 dB at 60 Hz and 20 kHz	
Maximum SPL[2] with amplifier rated at:	250 W/8 ohms/ch	60 W/8 ohms/ch
Continuous	125 dB	120 dB
Peak	132 dB	125 dB
HF Coverage		
Horizontal	80 degrees	
Vertical	60 degrees	

UPA-1C Loudspeaker	
Transducers	
Low Frequency	MS-12 12-inch cone driver, 8 ohms
High Frequency	MS-1401B 1.4-inch throat driver, 16 ohms
High Frequency Horn	Modified radial with foam lens
HF Network	Y-1PD
Function	DC blocking and damped band-elimination filter
Enclosure	0.8 cu. ft. vented, multi-ply Finnish birch plywood
Finish	Black textured, weather protected (optional)
Protective Grill	Perforated steel screen, charcoal-grey foam covering
Connector	EP-4 male (EP-5 male, Europe only)
Rigging	Aircraft pan fittings, or ⅜"-16 or M10 x 1.5 nut plate
Physical Dimensions	14½" W x 22⅜" H x 14½" D
Weight	67 lbs. (30 kg)

M-1A Control Electronics Unit	
Input Type	Balanced (active), 47K ohms
Output Type	Active push-pull, will drive 600 ohms
Maximum Input/Output Level	
Balanced	+26 dBu
Unbalanced	+20 dBu
Hum and Noise[3]	-90 dBV
Dynamic Range	120 dB
Sense Inputs	10k ohms true differential, opto-isolated
Crossover Frequency	1600 Hz
Low Frequency Delay Type	Active all-pass
Driver Protection Circuitry	
Low Frequency	RMS limiter
High Frequency	RMS limiter
	VHF Peak limiter
Indicators	
Sense; Hi and Lo	Green LEDs
Limit; Hi, Lo, and VHF	Red LEDs
Safe	Green LED
Power Supply, Positive and Negative	Green LEDs
Controls	
Front Panel	Input level control, AC on/off switch
Preset Panel	VHF control, Lo Cut switch, Safe switch and VHF switch
Connectors	
Balanced Inputs/Outputs	3-pin XLR (A-3), RTS ¼" phone jacks
Subwoofer Circuit Input	Unbalanced, ¼" phone jack (inserts Lo Cut,
	disables Level control)
Sense Inputs	Banana jacks

Note 1:
Measured 1 meter from center of cabinet face, half-space conditions, pink noise input, network set to FLT, smoothed to one-third octave. Low frequency response dependent on load conditions.

Note 2:
Loudspeaker driven with pink noise.

Note 3:
"A"- weighted, unbalanced.

Power	120/240V AC, 50/60 Hz (internally switchable)
Physical Dimensions	19" W x 1¾" H x 7¾" D Standard rack mount
Weight	8 lbs. (3.6 kg)

M-1A Control Electronics Unit

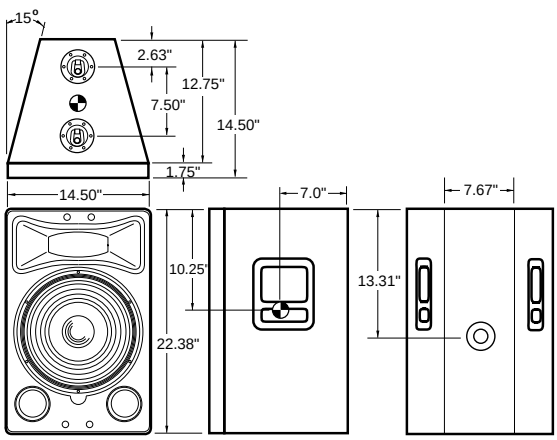
The UPA-1C loudspeaker operates as a system with the M-1A Control Electronics Unit (one per channel). Optimized for the UPA-1C and UM-1C UltraMonitor™ and pre-aligned at the factory, the M-1A contains frequency response and phase response alignment circuitry, and Meyer Sound's exclusive SpeakerSense™ driver protection circuitry, incorporating both peak and RMS signal limiting.

A single-channel device operating at line level, the M-1A is intended to be the final component in the signal chain before the power amplifier. Its factory-calibrated SpeakerSense circuitry protects the UPA-1C loudspeaker components from damage due to overheating under high power conditions. This unique circuit continuously monitors the power applied to the UPA-1C drivers, and individually limits the high-frequency and low-frequency outputs when the safe operating limits of the drivers are exceeded. Until the onset of overload, the Speaker-Sense circuitry has no effect on the signal.

Also provided is a switch-selectable Safe function, which widens the safety margin of the system and is intended to be used when extended periods of overload are anticipated. The Safe switch and other setup controls are located behind a cover plate on the M-1A front panel, providing a means of securing the system installer's presets.

To enhance the effectiveness of the UPA-1C, the M-1A incorporates sliding filters which band-limit the system response under full-power conditions. This has the effect of discriminating for vocal information in the signal to increase clarity, and is particularly useful when sound pressure levels are high and leakage becomes a problem. For this reason, it is recommended that subwoofers be used with the system if it must pass the full audio frequency range at all times. The preferred choice of subwoofer for the UPA-1C is the Meyer Sound USW-1.

Physical Dimensions



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Architectural and Engineering Specifications UPA-1C/M-1A

The compact sound reinforcement speaker system shall be a two-way type with a 12" low-frequency loudspeaker front-mounted in a ducted bass-reflex hardwood plywood enclosure with a compression driver mounted on a high-frequency horn which has a 1.4" throat, and a separate Control Electronics Unit.

The Control Electronics Unit shall contain a power supply capable of operating from a 120/240V AC, 50/60 Hz line, electronic crossover circuitry, electronic delay for the phase alignment of the low-frequency speaker, low- and high-frequency sliding filters which automatically activate under high power conditions, RMS limiters which protect the speakers from over-heating, equalization circuitry, active balanced input, indicator LED's for power on and limiters. Total harmonic distortion shall be less than .1%. "A"-weighted noise level shall be at least 110 dB below maximum rated output of +26 dBu.

The speaker system, its companion Control Electronics Unit, and a power amplifier rated at 250 watts/channel into 8 ohms shall meet the following performance criteria: Frequency response, 80 Hz to 18 kHz plus or minus 4 dB measured with ⅓ octave pink noise, 1 meter on axis; output of 125 dB SPL measured 1 meter on axis with peaks of 132 dB SPL driven with "A"-weighted noise. Total harmonic distortion shall be less than 1% at 110 dB SPL and 3% at 120 dB SPL one meter on axis. Distribution pattern, 80 degrees horizontal by 60 degrees vertical.

Speaker dimensions shall be 14½" W x 22⅜" H x 14½" D, weight 67 lbs (30 kg).

Control Electronics Unit dimensions shall be 19" W x 1¾" H x 7¾" D, weight 8lbs (3.6 kg).

The speaker system shall be the Meyer Sound UPA-1C. The Control Electronics Unit shall be the Meyer Sound M-1A.

Meyer Sound Laboratories has devoted itself to designing, manufacturing, and refining components that deliver superb sonic reproduction. Every part of every component is designed and built to exacting specifications and undergoes rigorous, comprehensive testing in the laboratories.

Research remains an integral, driving force behind all production. Meyer strives for sound quality that is predictable and neutral over an extended lifetime and across an extended range.

Sound engineering for the art and science of sound.

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